

Appendix table 4-45

**Government budget appropriations or outlays for R&D, by socioeconomic objectives, selected countries: 2009**

| Socioeconomic objective  | United States | Germany | France <sup>b</sup> | United Kingdom | Japan  | China | South Korea |
|--|---------------|---------|---------------------|----------------|--------|-------|-------------|
| Current U.S. PPP \$millions  |               |         |                     |                |        |       |             |
| All objectives   | 164,292       | 25,858  | 16,172              | 15,146         | 31,073 | NA    | 13,210      |
| Defense  | 84,771        | 1,466   | 4,578               | 2,766          | 1,149  | –     | 2,200       |
| Nondefense   | 79,522        | 24,392  | 11,594              | 12,380         | 29,923 | NA    | 11,010      |
| Exploration and exploitation of Earth                                      | 1,677         | 477     | 146                 | 407            | 587    | –     | 292         |
| Environment  | 565           | 791     | 438                 | 404            | 305    | –     | 606         |
| Exploration and exploitation of space                                      | 9,060         | 1,317   | 1,451               | 283            | 2,238  | –     | 403         |
| Transport, telecommunication, and other infrastructures                    | 1,536         | 457     | 156                 | 199            | 1,265  | –     | 271         |
| Energy   | 3,794         | 1,082   | 964                 | 157            | 4,091  | –     | 984         |
| Industrial production and technology                                       | 963           | 3,285   | 1,389               | 369            | 2,603  | –     | 3,497       |
| Health   | 43,927        | 1,244   | 1,154               | 2,749          | 1,255  | –     | 1,152       |
| Agriculture  | 2,629         | 787     | 303                 | 427            | 1,177  | –     | 979         |
| Education  | 464           | 240     | na                  | 99             | 74     | –     | NA          |
| Culture, recreation, religion, and mass media                              | 25            | 277     | na                  | 290            | 109    | –     | NA          |
| Political and social systems, structures, and processes                    | 754           | 495     | 417                 | 313            | 111    | –     | NA          |
| General advancement of knowledge: R&D financed from GUF <sup>a</sup>       | na            | 9,669   | 4,517               | 3,730          | 10,622 | –     | **          |
| General advancement of knowledge: R&D financed from sources other than GUF | 14,128        | 4,429   | 741                 | 2,953          | 5,486  | –     | 2,513       |
| Percent  |               |         |                     |                |        |       |             |
| Share of all objectives  | 100.0         | 100.0   | 100.0               | 100.0          | 100.0  | NA    | 100.0       |
| Defense  | 51.6          | 5.7     | 28.3                | 18.3           | 3.7    | –     | 16.7        |
| Nondefense   | 48.4          | 94.3    | 71.7                | 81.7           | 96.3   | –     | 83.3        |
| Share of nondefense objectives   | 99.9          | 100.6   | 100.8               | 100.0          | 100.0  | NA    | 97.3        |
| Exploration and exploitation of Earth                                      | 2.1           | 2.0     | 1.3                 | 3.3            | 2.0    | –     | 2.7         |
| Environment  | 0.7           | 3.2     | 3.8                 | 3.3            | 1.0    | –     | 5.5         |
| Exploration and exploitation of space                                      | 11.4          | 5.4     | 12.5                | 2.3            | 7.5    | –     | 3.7         |
| Transport, telecommunication, and other infrastructures                    | 1.9           | 1.9     | 1.3                 | 1.6            | 4.2    | –     | 2.5         |
| Energy   | 4.8           | 4.4     | 8.3                 | 1.3            | 13.7   | –     | 8.9         |
| Industrial production and technology                                       | 1.2           | 13.5    | 12.0                | 3.0            | 8.7    | –     | 31.8        |
| Health   | 55.2          | 5.1     | 10.0                | 22.2           | 4.2    | –     | 10.5        |
| Agriculture  | 3.3           | 3.2     | 2.6                 | 3.4            | 3.9    | –     | 8.9         |
| Education  | 0.6           | 1.0     | na                  | 0.8            | 0.2    | –     | NA          |
| Culture, recreation, religion, and mass media                              | 0.0           | 1.1     | na                  | 2.3            | 0.4    | –     | NA          |

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| Socioeconomic objective  | United States | Germany | France <sup>b</sup> | United Kingdom | Japan | China | South Korea |
|--|---------------|---------|---------------------|----------------|-------|-------|-------------|
| Political and social systems, structures, and processes                    | 0.9           | 2.0     | 3.6                 | 2.5            | 0.4   | –     | NA          |
| General advancement of knowledge: R&D financed from GUF <sup>a</sup>       | na            | 39.6    | 39.0                | 30.1           | 35.5  | –     | **          |
| General advancement of knowledge: R&D financed from sources other than GUF | 17.8          | 18.2    | 6.4                 | 23.9           | 18.3  | –     | 22.8        |

\*\* = included in other categories; na = not applicable; NA = not available

GUF = general university funds; PPP = purchasing power parity

<sup>a</sup>United States and South Korea do not have a category equivalent to general university funds (GUF).

<sup>b</sup>Data for France are for 2008, the most recent year available.

NOTES: United States data are based on federal budget authority. Socioeconomic objective categories reflect the new NABS 2007 classifications (Nomenclature for the Analysis and Comparison of Scientific Programs and Budgets). Conversions of foreign currencies to U.S. dollars are based on purchasing power parity exchange rates. Because of GUF and slight differences in accounting practices, distribution of government budgets among socioeconomic objectives may not completely reflect actual distribution of government-funded research in particular objectives. Detail may not add to total because of rounding.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Federal R&D Budget Authority by Spending Category, FY 2009–11; Organization for Economic Co-operation and Development, special tabulations (2011).

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